

Notice of Allowability

Application No.

10/085,387

Examiner

Dah-Wei D. Yuan

Applicant(s)

KURTZ, ANTHONY D.

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/26/04.
2. ☒ The allowed claim(s) is/are 2-20.
3. ☒ The drawings filed on 05 June 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

SOLID STATE FUEL CELL

Examiner: Yuan

S.N. 10/085,387

Art Unit: 1745

June 2, 2004

Detailed Action

1. The Applicant's amendment filed on May 26, 2004 was received. Claim 1 was cancelled. Claims 2,14 were amended.
2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on February 25, 2004.

Claim Rejections

3. The claim rejections under 35 U.S.C. 103(a) as obvious over Kawatsu and Mallari et al. on claims 1,2,14 are withdrawn because the independent claim 1 has been canceled.

Reasons for Allowance

4. Claims 2-20 are allowed. The following is a statement of reasons for the indication of allowable subject matter: The invention of independent claim 3 recites a solid state fuel cell comprising a planar semiconductor anode structure having a plurality of pores, a planar semiconductor cathode structure having a plurality of pores, and an electrolyte planer semiconductor structure having a plurality of pores, wherein said electrolyte structure is fabricated from silicon of semiconductor structure. The closest prior art of record, Kawatsu and Mallari et al., do not teach or suggest the electrolyte structure is fabricated from silicon.

Kawatsu only teaches the use of porous carbon-based material as the electrodes and silicon carbide matrix impregnated with phosphoric acid as the electrolyte. Mallari et al. teach the use of silicon electrodes in a direct methanol fuel cell system, in which a solid polymer membrane electrolyte is used. The invention of independent claim 4 recites a solid state fuel cell comprising a planar semiconductor anode structure having a plurality of pores, a planar semiconductor cathode structure having a plurality of pores, and an electrolyte planer semiconductor structure having a plurality of pores, wherein said pores of said anode and cathode have an enlarged opening portion at said first surface tapering to a smaller opening at said second surface. The closest prior art of record, Kawatsu, only teaches the use of porous carbon-based electrodes in the fuel cell stack.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dah-Wei D. Yuan
June 2, 2004

A handwritten signature in black ink, appearing to read "Dah-Wei D. Yuan", followed by a horizontal flourish.